



Left to right - Howard Hill, Ass't. Manager, Wood Holbrook, Engineering Equipment Operator, Virginia Behnke, Refuge Clerk, Lee Herzberger, Manager, Alson Radsick, Meintnanceman

PERMANENT PERSONNEL

1. Jim Carroll - GS-9/5 - Transferred 8/9/76.....Acting Refuge Manager
2. Lee Herzberger - GS-11/4 - EOD 9/2/76.....Refuge Manager
3. Howard W. Hill, Jr. - GS-9/1 - EOD 12/19/76 ...Ass't. Refuge Manager
4. Virginia Behnke - GS-4/6.....Refuge Clerk
5. Wood Holbrook - WG-8/5.....Engineering Equip. Operator
6. Alson Radsick - WG-8/5.....Maintenance

TEMPORARY PERSONNEL

1. William Osborne - GS-5/1.....Construction Inspector

YCC STAFF

- Charity Krueger - GS-9/1.....Camp Director
- Thomas Kemp - GS-7/1.....EE Specialist
- David Roberts - GS-5/1.....Work Coordinator
- Louise Orr - GS-5/1.....Group Leader
- Gail Kantak - GS-5/1.....Group Leader
- James Swiderski - GS-5/1.....Group Leader

YCC STAFF (Continued)

Robert Arrington.....Youth Leader
Molly Cook.....Youth Leader
Jerry Szymaniak.....Youth Leader

YCC ENROLLEES
1st Session

Caryll Batt
Ellen Bognardus
Cathy Brown
Margaret Dunn
Dawn Egner
Daniel Glazier
Fred Guiler
Cary Hager
Amy Lammers
Jane Mutchler

William O'hare
Robert Powell
Curt Rohrabough
Karen Richter
Anne Terry
Lyn Terry
Karen Vorst
David Wanzor
Philip Welch
Robert Weyer

Tony Wilmington

2nd Session

Jeff Bennett
Lorrie Eshelman
Deane Garrett
Cheryl Groves
Douglas Kester
Rolf Kuestner
Kevin Lafontain
Erika Long
Amanda Meyer
Mark Montgomery

Mike Morrison
Carol Niese
Marie Niese
Laura Plas
Marie Smith
Jeffrey Sparks
Dianne Stutz
Alan Surratt
Jeff Thompson
Clifford Waldon

Cathy Young

Review and Approvals

J.E. Hersberger 4-27-77 _____
Submitted by Date Area Office Date

Ottawa NWR _____
Refuge Regional Office Date

OTTAWA NATIONAL WILDLIFE REFUGE



Toledo
13 miles

2

STATE OF OHIO
METZGER MARSH

LAKE

ERIE

Pintail Marsh

Willow Point

Redhead
Flat

Widgeon Slough

Mallard Bay

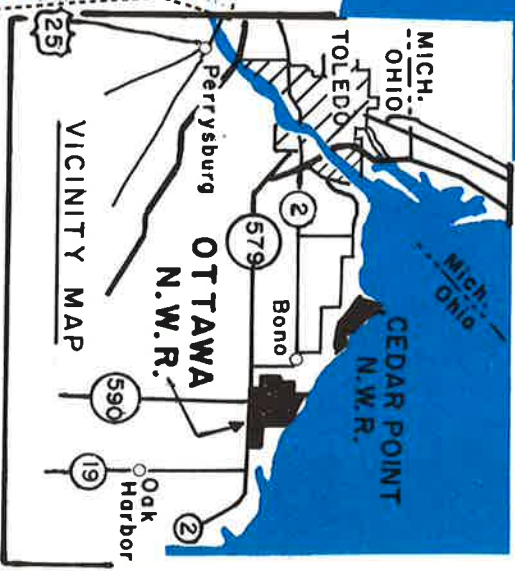
Swan Dive

Goosehaven

HDDOTS.

Woodies Roost

STATE OF OHIO
CRANE CREEK WILDLIFE
EXP. STATION
& Beach Park



- WATER
- MARSH
- AGRICULTURE
- TIMBER
- DIKES



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Satellite Units

Darby Marsh
Navarre Marsh
Cedar Point NWR
West Sister Island

I. GENERAL

A. Introduction

Ottawa NWR is located in northwest Ohio, on the shores of Lake Erie, 17 miles east of Toledo, Ohio. The refuge is comprised of the ~~4,723~~ ^{4,683} acre main unit plus the ~~480~~ ⁵³⁸ acre Darby marsh unit, which is located 10 miles east of the main unit. The refuge also administers the 2,245 acre Cedar Point NWR, located 6 miles west of the main unit and the 82 acre West Sister Island NWR, an island located 9 miles north on Lake Erie. This island has now been designated as a National Wilderness area. Ottawa NWR also administers, cooperatively with the Davis-Bessie Nuclear Power Station that is owned jointly by the Toledo Edison Co. and the Cleveland Electric Illuminating Co., the ~~614~~ ⁵⁷¹ acre Navarre marsh unit, located 5 miles east of Refuge Headquarters.

B. Climatic and Habitat Conditions

| <u>Month</u> | <u>CY-76</u> | <u>Precipitation</u> | | <u>Max</u> | <u>Temperatures</u> | |
|--------------|--------------|----------------------|-----------------|------------|---------------------|--|
| | | <u>Normal</u> | <u>Snowfall</u> | | <u>Min</u> | |
| January | 2.16 | 2.33 | 9.2 | 42 | -4 | |
| February | 2.14 | 1.88 | | 64 | -7 | |
| March | 3.74 | 2.26 | | 76 | 11 | |
| April | 2.58 | 2.77 | | 86 | 22 | |
| May | 2.73 | 3.04 | | 80 | 21 | |
| June | 2.42 | 3.79 | | 93 | 53 | |
| July | 1.66 | 2.59 | | 98 | 52 | |
| August | 2.06 | 3.33 | | 91 | 42 | |
| September | 5.75 | 2.13 | | 92 | 37 | |
| October | 2.20 | 2.39 | | 80 | 27 | |
| November | .42 | 2.04 | Traces | 55 | 8 | |
| December | <u>.55</u> | <u>1.95</u> | <u>4.75</u> | 56 | -8 | |
| Totals | 28.41 | 30.50 | 13.95 | | | |
| Extremes | | | | 98 | -8 | |

Ottawa NWR continued to be at the mercy of Lake Erie at times during the year. Several northeast storms from the lake in March and April continued the erosion of the dikes, however no new breaks occurred. The mean water level for April was only 0.43 foot lower than the all time record high mean set in 1973. Water briefly overtopped the north dike around the west unit of Black Swamp Woods-A. Dike damage was minor.

In accordance with the Corps of Engineer's 75 year, cyclical projections, the lake water levels started to drop during the latter part of the year. At the end of December, the lake level was 1.2 feet above the 75 year average. For comparison, the level was 2 feet above the 75 year average in December 1975. We hope that this cyclical decline continues, in that it will reduce many of our problems associated with dike maintenance.

Precipitation was 2.09 inches below normal for the year. This figure is misleading. The months of April through August were well below their norms, resulting in slightly stunted refuge crops. No serious damage occurred however, and by the end of the year, all but 50 acres of sorghum and a few acres of corn were utilized. The month of September had 5.75 inches of precipitation which was more than double the normal amount, but came too late to help the crops and only biased the year-end deviation.

Temperatures on the average were colder than normal for the year. The temperature dipped below zero 7 times during the year with an extreme low of -8° on 12/31. All pools were frozen over by the end of November.

C. Land Aquisition

Nothing to report.

D. System Status

Implications of the NFIO level of operations for Ottawa as proposed for 1976 reflected only a slight reduction from the then current operating level. The staff under NFIO would be made up of a GS-11 Manager, a full time Maintenceman and a 30 day a year Clerk. The then current staff was made up of a GS-9 Acting Manager, a full time Maintenceman, a 156 day a year clerk and an Engineering Equipment Operator. This level was only 126 days and one position above the NFIO level.

During 1976 steps were made toward attaining the objective level staff requirements of 10 permanent positions and 720 man-hours of temporary help. In June, the Refuge Clerk was converted from a 24 hour appointment

(156 days/year) to a 36 hour appointment (234 days/year). In September a GS-11 Manager EOD, replacing the GS-9 Acting Manager and a GS-9 Assistant Manager EOD in December. If the O&M base funding would now increase in accordance with the increased payroll, we would finally be headed in the right direction.

Other implications of NFIO were that waterfowl maintenance would drop by 1,000,000 use days. No marsh units would be maintained, all would revert to natural marshes subject to lake erie water levels and prevailing winds. Waterfowl food production would continue on 524 acres of cooperatively farmed land. The 524 acres would basically comprise the entire managed acreage of the 8,120 acre Ottawa NWR under NFIO.

Public use would consist of goose hunting administered by the State. Environmental Education would be encouraged at full level I, and Wildlife/Wildlands observation would take place on the 1/2 mile entrance road and adjoining parking area only. All other public use and interpreting programs would be discontinued.

Initial and intermittent public reaction to closures and lack of maintenance of areas outside the NFIO units may exceed the refuge's ability to respond. During flood periods, particularly sensitive areas would be Cedar Point NWR and the Darby Division, each with over a million dollars invested.

The FY-76 Annual Work Plan Advise had only two specific objectives for Ottawa. These were to develop a plan for the conversion of cropland to natural moist soil feed production and the initiate a full-level I EE Program. One of these objectives, the EE Program could be accomplished within our NFIO commitment, and therefore initial contact was made with local educators in February of 1976.

The second objective involving conversion to moist soil was not included within our NFIO. Plans were submitted in 1975 and implementation was begun in 1976. Lucas and Ottawa County SCS Offices were contacted and several conferences were held with Gerald Cummings, Consultant Biologist, FWS. The project consisted of the conversion of 975 acres of cropland into moist soil units. 268 acres were included in our NFIO, leaving 707 acres outside. This outside acreage is situated north of Crane Creek, and is at the mercy of Lake Erie and prevailing winds. If this project is to reach completion, additional funding will have to be made available. This funding was recieved in FY-77 in the form of rehabilitation monies and implementation was continued.

Other non-specific, region-wide objectives which included Ottawa, were completed during CY-76 as part of that current year's program.

The integration of PFMIS and PPHE continues to be a source of some confusion with constant addendums and revisions. However, as more familiarity is gained through practical application of the system, the more valid the feedback in the form of accomplishment reports, monthly management reports and object class reports will be to the operation of refuge programs and ultimately, to the attainment of refuge objectives.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Work was continued on the construction of the new YCC shower house and three cabins at Buttermut Lodge. These structures will be a welcome addition to the YCC Camp site.

B. Maintenance

Repairs to the "common dike" between the State's "Magee Marsh" west unit and Ottawa's Pool 1 were begun in June by the State as a Federal Aid Project. Fill for the dike is being taken from the refuge side of the dike. This dike helps protect one of the refuge's controlled marshes as well as adds flood protection to the headquarters complex.

On the 15th and 16th of May a group from the Ohio Air National Guard, 200th Civil Engineering Squadron, helped to elevate the dike around the YCC camp site, making it more secure from floods. They continued various dike repairs on two additional weekends. This was a great help in securing Ottawa's NFIO from flood.

Food production units 7 and 8 which are to become moist soil units received attention in June. Pump motor 7A burned out and was replaced. The shelter for pump 7B was rebuilt by YCC. A poorly placed flood drain in unit 8 was removed and relocated.

A great deal of minor maintenance work was accomplished by YCC. This included wood chipping of foot trails, brush clearing, sign rehabilitation, boundary posting, rip-rapping, landscaping and general building maintenance. As usual, much work is accomplished by YCC that would not be accomplished otherwise.

Dikes north of the Black Swamp Woods-A and around refuge headquarters were capped by dragline during the year. This extra height on the dike will further protect the headquarters in case of flooding.

With the arrival of a new Assistant Manager, Q-9 residence underwent minor rehabilitation. The living and dining rooms and halls were painted, along with the ceiling in one upstairs bedroom. The carpeting

was cleaned and an electric range was moved from the Buttermut Lodge into the residence.

Several safety improvements were made during the year. Following is a list of the most significant problems that were solved.

1. An all steel bar was constructed to secure the gas and oxygen cylinders on the back of trucks when being transported. Also it was made policy that all hoses and regulators be removed and caps put on during transportation.
2. Smoke alarms were installed in Q-3, Q-9 and Buttermut Lodge.
3. Station fire extinguishers were recharged.
4. Purchased a portable ground fault interrupter.
5. Purchased back-up alarms for two of the refuge's vehicles.
6. Hand tools were fixed, replaced or re-wedged according to need.
7. An all electrical inspection was made of the entire refuge by a Certified State Inspector.
8. Installed safety guards on circular table saw.
9. Dead branches were removed from trees around Buttermut Lodge where YCC enrollees would be staying.

The major problem facing us for 1977 will be to comply with the electrical inspection report. Several problem areas were identified, some of which will be major undertakings. With an already tight budget, as much of the work possible will be done for account. The rest will be delayed until funding is available.

C. Wildfire

Nothing to report.

III. HABITAT MANAGEMENT

A. Croplands

Due to unseasonably dry weather conditions in late spring and summer crops this year were a little stunted. No serious damage occurred and with the absence of snow in late fall and early winter, most of the crops were utilized. 7 permittee farmers planted 596 acres of soybeans as their share under the permit agreement. This acreage was aeri-ally

seeded with rye grass as a second crop in early September just before harvest of the beans. This year's attempt proved unsuccessful, in that very little green browse resulted. Dry soil conditions, light seeds and lateness of seeding were probably combined in the crop failure. Other methods are being considered for next year. Some suggestions are to use a larger and heavier seed such as barley, wheat or rye and to seed just prior to the last cultivation of the soybeans. This has been a hit or miss operation in the past, therefore something different will be tried.

A total of 68 acres of corn, 67 acres of sorghum and 66 acres of buckwheat were planted and left standing as the refuge's share under the agreements. This brings the total acreage under cultivation to 797 acres. Approximately 200 acres of perennial green browse were also mowed and maintained by the seven permittees.

Preliminary planning for the conversion of 975 acres of former and present croplands into moist soil units was begun in 1976. The ramifications of this project have been discussed in the systems status section of this report. All that remains now is final planning, implementation and additional funding for completion.

B. Grasslands

Nothing to report.

C. Wetlands

Very little management of our wetland areas was allowed due to the deteriorated conditions of dikes north of Crane Creek, especially, which permitted uncontrolled entrance of water from Lake Erie. During the floods of "72" and "73" water from the lake breached and flattened many of these dikes and remained for 6 weeks before receding. Since then no funds have been made available for repair of the dikes, therefore this area remains at the mercy of Lake Erie.

During these flood periods, most of the emergent vegetation was destroyed and with the increased siltation, soil compaction occurred, which destroyed the submergent vegetation. Recovery has been very slow. Most of our marsh habitat now consists of mud flats, completely barren of vegetation, for most of the year. This condition has been a boon to shorebirds, which is reflected by their increased usage. However, a balanced marsh environment, a major refuge objective, is now non-existent.

Management of these areas during the past year was restricted to lowering of water levels on Pool 1 to facilitate the repair of the "common dike" by the State and lowering of Pool 2 to primarily decrease the amount of interior dike erosion from wave action. Further management will depend upon the availability of funds for dike repair.

D. Forestlands

Nothing to report.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Two of the three Black Swamp Woods public use natural areas were cleared of old fences and debris as environmental restoration projects by the YCC.

G. Easements for Waterfowl Management

Not applicable.

IV. WILDLIFE

A. Endangered and/or Threatened Species

The arctic peregrine falcon was the only federally endangered species observed on the Refuge in 1976. Only one individual was observed at any one time and these times were during the spring and fall migration periods. A total of 90 use days were recorded for this species.

The osprey and the savannah sparrow, both of undetermined status, were observed at different times, on the Refuge. Total use days were 180 for the osprey and 1,000 for the savannah sparrow.

In addition to the above mentioned species, Ottawa also provides habitat for six known species and possibly several other species, if reptiles, amphibians, fish and mollusks are included, that are listed, on the State of Ohio's endangered species list. The arctic peregrine falcon has been mentioned. The rest include the king rail, 30 use days, sharp-shinned hawk, 2,850 use days, common tern, 385,395 use days, upland sandpiper, 60 use days and bald eagle, 1,230 use days.

Bald eagles continued to nest and produce young in the Ottawa Refuge area despite man's intrusion. Five young have been fledged in the last three years from the nest overlooking Ottawa's Pools 4 and 5. 1 in "74", 2 in "75" and 2 in "76". An eagle was observed on two occasions in April of "76", carrying a muskrat to the nest. The nesting success was, in June, confirmed by the entire YCC Camp when two nestlings were observed next to the nest as well as the two adults, one of which caught a fish in front of the group.

B. Migratory Birds

1. Waterfowl

Gooslings from the local "maxima" nesting flock were observed during the first week of April. The average hatching date is mid-May. This can only be attributed to unseasonable and variable weather.

900 geese were produced on the refuge and surrounding area. 50 mallards, 20 blue winged teal and 100 wood ducks were also produced.

With the dikes still in a deteriorated condition, marsh management was nearly non-existent. Most of the active management for waterfowl maintenance was centered around croplands and associated green browse areas. Only limited lowering of pool 2 was accomplished because Lake Erie levels persisted at or above pool levels, thereby not allowing any gravity discharge. Also funds were not available for pumping water out.

Goose usage reached 83% of the objective levels with 1,246,950 use days recorded for the year, a slight decline from 1975. Duck use was 56% of the objective levels, with 2,353,920 use days recorded, a reduction of 12% from 1975. Peak populations were reached in November with 10,700 geese and 46,360 ducks. Coots totaled 293, 800 use days, reaching a peak in September of 6,200 birds.

The continued decline in waterfowl usage in the Ottawa area is due in part to the deteriorated interior and exterior dike system along the Lake Erie marshes. With this inability to hold water in, coupled with declining Lake Erie water levels, the marshes dried out during the growing season, exposing bare mud flats, which resulted in a lack of natural foods being produced.

Dry weather during the fall was another factor that determined waterfowl use. Farmers in the private section were able to harvest their crops earlier than usual, which resulted in earlier than usual fall plowing. With the lack of natural foods plus a reduction in the availability of cultivated crops, many waterfowl by-passed the area, flying further south where food was more readily available. Therefore, as stated before, dike rehabilitation is the key to solving most of our problems.

2. Marsh and Water Birds

With the increase in the amount of shallow water available, marsh and water bird usage increases. These species used the refuge for a total of 550,000 use days. An increase of approximately 9% over 1975. Populations peaked in the spring with 7,580 individuals being observed in May.

3. Shorebirds, Gulls, Terns and Allied Species

With the continued increase in the amount of mud flats on the refuge and its sub-units shorebird, gulls, etc., use continued to increase, however the rate of increase has slowed down. 1,323,550 use days were registered for 1976, as opposed to 1,320,330 use days for 1975. This was an increase of only .3%. This represents approximately 1/3 of the objective totals for this category. This indicates that with the refuge in more of a mud-flat state than planning proposes for any one period of time, a major revision of the objectives might be necessary. Peak populations for gulls and terns were registered in late fall and early winter while peaks for shorebirds were registered in May.

4. Raptors

Raptor use, including the bald eagle mentioned earlier totaled 23,810 use days for the year. Four species, the great horned and screech owls, year around residents and sharp-shinned and red-tailed hawks, mainly spring, summer and early fall residents accounted for 65% of total use days. Most certainly there is some raptor production on the refuge, however, no records are kept except for the aforementioned bald eagles.

5. Other Migratory Birds

The 6th annual Christmas Bird count on the refuge was held on Dec. 26. A total of 27 people participated and 52 species of birds were observed, including the carolina wren, field sparrow, and fox sparrow, all of which are listed as rare for winter observations, on our bird list.

A total of 33,970 use days were recorded for mourning doves for the year. The peak population was recorded as 600 in January of 1976. Other species of songbirds recorded were waterpipit 450 use days and the savannah sparrow with 2,500 use days on record.

C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

A total of 30 white-tailed deer are estimated to be on the refuge. These seem to be located mostly on the southern portion of the main unit. Production is estimated at approximately 8 per year with triplets being observed. This appears to be the optimum herd size that the area can carry under existing conditions. Road kills are minimal.

Muskrat populations are still in keeping with the existing habitat.

1,110 "rats" were trapped on the Refuge in 1976, which appears to be maintaining a constant to declining population of less than 10,000. With the rebuilding of the dike system and the regaining of marsh control, this population will probably increase as a balanced marsh environment is obtained. The "rat" population will then be used as a marsh management tool with the trapping program geared accordingly.

Other game mammals observed on the refuge are the eastern cottontail rabbit, fox squirrel, red squirrel, red fox, gray fox, raccoon and mink. These species totalled 326,700 use days on the refuge.

2. Other Mammals

Feral dogs continue to be a problem on the Refuge. Tracks are seen everywhere and reports of deer being chased have been recieved.

Other species of mammals appear to be in balance with the available habitat.

3. Resident Birds

The ring-necked pheasant was the only species observed in this category. The estimated population of 100 birds totalled 36,000 use days on the Refuge.

4. Other Animal Life

Nothing to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

In accordance with our NFIO commitment, a full level I EE Program was implemented in 1976. In February, the Refuge hosted an "EE Rap Session" for the Ottawa County Schools with twenty educators participating. Included were Superintendents, Staff Advisors, Principals, Teachers, a Professor from Bowling Green State University and a Professor from Toledo University. The consensus of the group was to hold another teacher workshop in the fall, as the Refuge had been doing the last few years, utilizing the knowledge of any teachers who held EE Sessions on the Refuge before that time. The Teacher Workshop was held at the Butternut Lodge area in October with 52 teachers participating.

Several EE projects were carried out on the refuge during the year. As a result of teacher workshop and other contacts, a total of 2,826 activity hours for students and 318 activity hours by teachers were recorded.

The wildlife nature trails recieved good use this year with 10,000 activity hours of use being recorded. This is a 4% increase over 1975, and also represents 4% of foot-trails-self guided, objectives. With the restoration of controlled balanced marshes, which are an integral part of the trail system, more usage can be expected.

A "Field Day" for 5th graders in Ottawa County was hosted by the refuge in September, for the 7th consecutive year. The field day is sponsored and arranged by the Soil Conservation Service.

2. Off-Refuge

Here again, much of the off-refuge I&R time was spent on promoting a full level I EE Program. Several orientation sessions were made at surrounding school districts. Acting Manager Carroll presented an EE session at an Oregon School System Staff Development Program with 85 teachers participating in the session. This accounted for 510 activity hours of EE technical assistance. This session set the stage for much of the on-site EE participation throughout the year.

Other off-refuge appearances included, (1) A session on conservation, presented at the Eisenhower Jr. High Career Day with 80 students participating, (2) Participation in National Wildlife Week where programs were presented in ten area schools to 2,260 students and (3) Several slide/talk, slide/tape and film/talk presentations. 13 news releases were also issued during the year.

B. Recreation

1. Wildlife Oriented

Ottawa refuge held its first on-refuge goose hunt since it opened in 1961. The hunt which was administered by the Ohio DNR on refuge land, opened on Oct. 15 and terminated on Nov. 26. 32 blinds were placed on approximately 640 acres of hunting area on the refuge's main unit. Only 16 blinds were open on any given day and blind assignments were determined by legal drawings. No more than two persons per blind were permitted, 10 shell limit, steel shot only and shot size no larger than No. 1, were some of the regulations involved.

An average of 30 hunters per day harvested 283 Canada geese during the 25 day season. The hunt went off without any major hitches. Considering the lower than normal goose concentrations in the area and Blue-Bird" days early in the season, hunting success of 0.38 birds/man was considered good. To our knowledge, local acceptance of this first refuge hunt was good.

A public drawing was held at refuge headquarters to select four fur trappers in November. Success at the end of the year was low in all units except the Navarre marsh. This is attributed to the fact that this marsh is managed cooperatively with the Davis-Bessie Nuclear Power Station whose main commitment was to rebuild and maintain the exterior and interior dike system. This resulted in a balanced marsh environment which consequently produced a higher muskrat population. The problem of low rat populations on the other units has been discussed in a previous section.

With "rat" pelts bringing \$6.00 a piece, poaching problems have arisen on the units. Fur trapper tally boxes were vandalized several times at the Cedar Point NWR trapping unit. Investigations were conducted but no apprehensions were made. Juveniles are suspected.

We view our trapping program as a marsh management tool and not a recreational activity. However, in view of the lack of marsh to manage (except on one unit) and the fact that we record the activity hours associated with trapping on our public use report, we are including trapping in this section also. Wildlife/wildlands observation and photography are two popular wildlife oriented recreational activities on the refuge. W/W observation accounted for 15,470 activity hours and photography accounted for 2,480 activity hours. These two output categories accounted for 87% of the total refuge visits.

Another first was registered at Ottawa in May of this year. The refuge hosted a Field Trial Event sponsored by the Lake Erie Retriever Club. 600 people attended the trials and 51 dogs were entered. No adverse public reaction has been noted so far. The club has asked to return next year.

2. Non-Wildlife Oriented

Nothing to report.

C. Enforcement

All twelve persons apprehended in relation to refuge hunting violations this fall pled guilty and paid their fines ranging from \$10.00 to \$50.00 each.

Lack of staff and consequently the lack of enforcement time spent in the field continued to be a problem. Much help was given by the Special Agents and State Game Protectors during waterfowl season however, the brunt of refuge enforcement efforts rested with the refuge staff. The addition of an Asst. Manager in Dec. should help alleviate this problem.

VII. OTHER ITEMS

A. Field Investigations

WMS#11 General Studies on Navarre Marsh Division (Environmental Studies Center - Bowling Green State University)

The objectives of this study are to (a) Identify the important Flora and Fauna; (b) Describe the existing habitats, their distribution and associated species; and (c) Establish baseline information on the existing conditions and stresses. This study is on-going with data collection and analysis continuing.

Testing Candidate Chemical Blackbird Repellents in Agricultural Crops and Seeds in Ohio, (Methiocarb on Sweet Corn) (Allen R. Stickley, Jr., FWS, Division of Population Regulation Research).

Twelve 1/4 acre study plots of sweet corn were incorporated into the Refuge's Cooperative Farming Program.

B. Cooperative Programs

YCC

In many respects, planning this year's YCC camp were similar to starting a new camp and considerable time was spent in this area. The basic problems were food and lodging which were off-site during last year, but were on-site this year. This was generally resolved and the 1977 camp should be much easier to establish.

One big problem that arose was that the imprest fund had to be increased from \$300 to \$800 in July, for the duration of the camp. Building materials, at up to 50% off from cash and carry stores, had to be purchased with cash. However, the DSC took from 3 to 4 weeks to reimburse the fund which severely hampered several work projects.

C. Items of Interest

An Administrative and Personnel Inspection was conducted on 5/26 by Messrs. Kubik, Morin and Geving. Several areas were noted as needing correcting, however, the over-all rating was good.

An oil spill was reported on Crane Creek, which flows through the refuge,

on 5/17. A 1,000 gallon tank of #2 fuel oil had leaked an unknown amount of oil into the Creek. The local State Game Protectors monitored the spill and the Federal and Ohio EPA were alerted. It was determined that only about 40 gallons had entered the creek. This was cleaned up by Commercial Oil Service. There were no visible signs of dead animal life and little if any oil entered the refuge.

Two gentlemen from Sweeny Enterprises visited the refuge on 5/18 and indicated their 110 acre hunting club marsh adjacent to the Darby Division was for sale. The information was forwarded to R.O. to determine if the F&WS was interested at this time. They were not.

Engineering Equipment Operator Wood Hellbrook has entered a suit against B.E.C. in Cleveland, Ohio, having to do with defamation of character. This is with reference to their continued delinquency in paying his medical bills resulting from an accident which occurred when he was an employee of the Ottawa Job Corps Camp. A concerted effort is being made by the R.O. to resolve this situation.

Acting Refuge Manager Jim Carrell was informed that he had been selected as Manager of Necedah NWR in May of 1976. Jim transferred to Necedah on 8/9. Gerald Cummings, Consultant Biologist, Mark Twain NWR, was interim Acting Manager 8/12 through 8/16 and 8/25 through 8/31.

The new Refuge Manager, Lee Herzberger arrived on duty on 9/2 from the Attwater Prairie Chicken NWR, in Texas where he served as manager also.

After three years without an Ass't. Manager, Howard W. Hill, Jr. was transferred in on 12/18 from the Agassiz NWR, in Minnesota, as the new Ass't. Manager.

The Narrative Report was written by H. W. Hill, Jr., Edited by Lee Herzberger and typed by Virginia Behnke.

D. Safety

The safety meetings at Ottawa were held on the first Monday of each month. The chairmanship of each meeting was rotated among the four member staff of the Refuge. It was decided during the first meeting of 1976, that five minutes of each meeting be spent on first aid. After each presentation was made, an in-depth discussion was made on the presentation. All incoming safety correspondence for the preceding month was reviewed and analyzed, as a way to keep current with Service Safety Policy. Station safety problems were identified and plans were made to correct them.

Mr. Thomas Chrystler, a Certified State Electrical Inspector, made a days inspection of this station's electrical facilities. Several problem areas were identified, some of which will be major undertakings. With an already tight budget, as much of the work possible will be done for account. The rest will be delayed until funding is available.

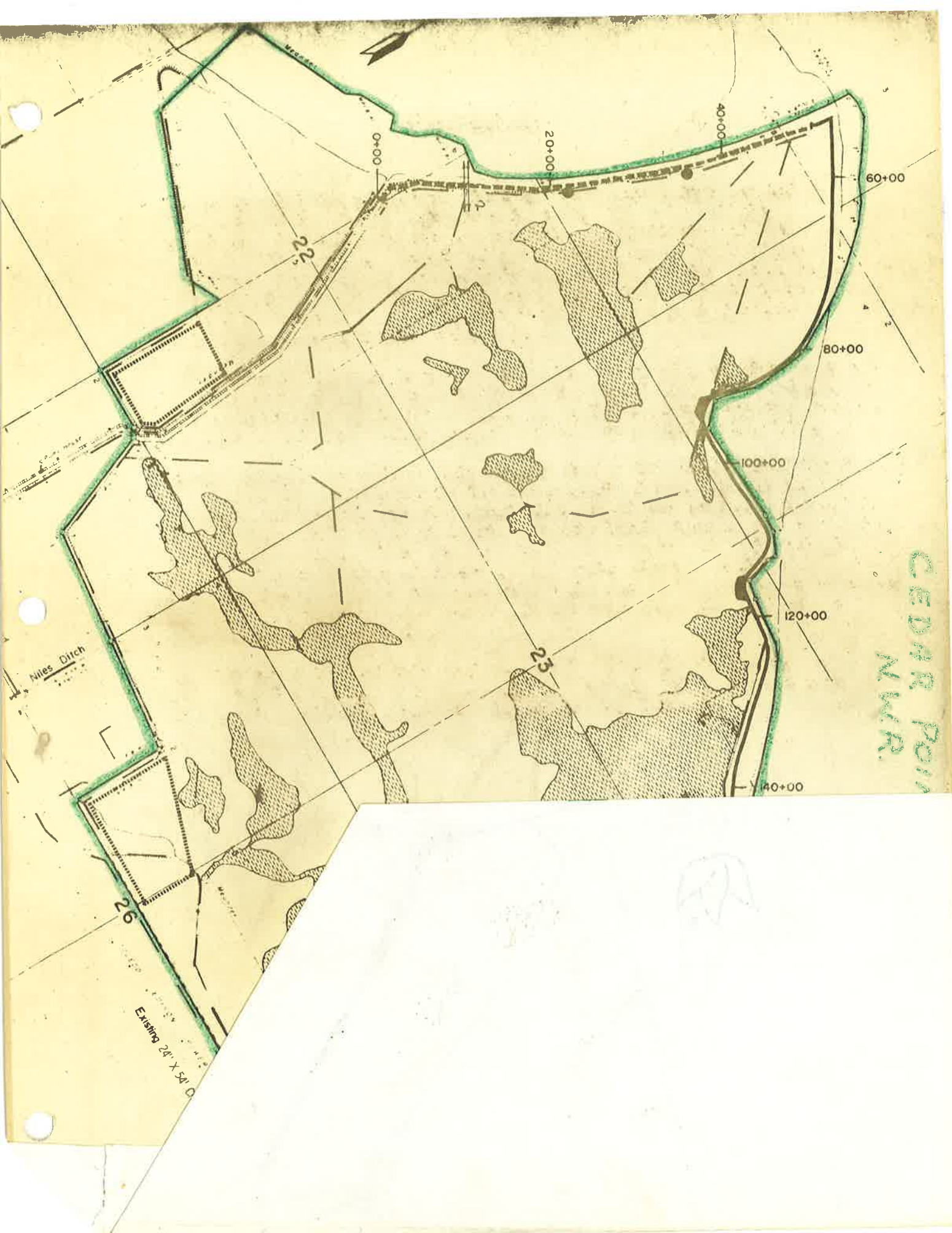
CEDAR POINT NWR

The Cedar Point NWR is an approximately 2,200 acre Refuge located 6 miles west of the Ottawa Refuge's main unit. The only activity associated with this area was the complete rehabilitation of it's destroyed dike system. Pre-planning inspection by Regional Office Engineers, surveying and cross-sectioning of the existing dikes, clearing of debris and some filling of eroded areas to facilitate these activities occurred in May. An Environmental Assessment for this project was also submitted during May.

Invitations to bid were issued in July with the opening of bids on August 31. The contract was awarded to The George Gradel Company of Toledo, and a pre-construction meeting was held. An official ground breaking ceremony for this 1.6 million dollar project was held on September 26, 1976.

Steady progress was made on this project during the remainder of the year. In general, the weather was in the contractor's favor. By the end of November, all breaks, except a short distance of one break,, in the original dike had been built up to at least Lake Erie level, thus nearly containing the Interior marsh. There appeared to be an over-run of engineering's estimate for quantities of rip-rap. The contractor was notified in writing to place rip-rap only on the most vulnerable slopes in an attempt to reduce this possible over-run of rip-rap. As the year ended the project was approximately 35% completed.

With the completion of this project, coupled with the declination of Lake Erie water levels, the threat to private property and to the water supply of Toledo's $\frac{1}{2}$ million residents will be greatly lessened.



CEDAR POINT
NWR.

Hills Ditch

Existing 24" X 54" O

NAVARRE MARSH

Navarre Marsh is a 614 acre marsh, surrounding the Davis-Besse Nuclear Power Station, located five miles east of the Ottawa NWR main unit. This marsh is owned and its facilities are maintained by the Toledo Edison and Cleveland Electric Illuminating Companies, which also own the Nuclear Power Plant. Ottawa NWR has full management control of the marsh, under a Cooperative Agreement with the two power companies.

The area is not open to the general public and only two management activities occurred on the unit. Trapping was allowed on the unit as part of the refuge trapping program, whereby, 505 muskrats were taken, under a Special Use Permit. During recent years, this has been the most productive marsh on the refuge as far as wildlife resources are concerned, in that the system of dikes and structures are maintained as they should be, by the power companies.

The second management activity occurring on this unit is a Wildlife Management Study that is under contract to Toledo Edison operating under our Special Use Permit.

WMS # 11 GENERAL STUDIES ON NAVARRE MARSH. (Dr. William B. Jackson, Bowling Green State University).

This is an on-going study with no definite termination date. Its objectives are to study the Ecological Parameters, Vegetative and Vertebrate aspects of the marsh, both qualitatively and quantitatively.

OTTAWA NATIONAL WILDLIFE REFUGE (NAVARRE DIVISION)

OTTAWA COUNTY, OHIO

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

83° 06'

83° 05'

R. 15 E.

R. 16 E.

83° 03'

41° 37'

41° 37'

T. 8 N.

T. 8 N.

T. 7 N.

T. 7 N.

41° 35'

41° 35'

41° 34'

41° 34'

83° 06'

83° 05'

R. 15 E.

R. 16 E.

83° 03'

COMPILED IN THE DIVISION OF ENGINEERING
FROM AERIAL PHOTOGRAPHS, SURVEYS
BY THE U.S.G.S. AND B.L.M.

FIRST PRINCIPAL MERIDIAN

Scale 0 10 20 40 60 CHAINS
0 1/8 1/4 1/2 3/4 1 MILE



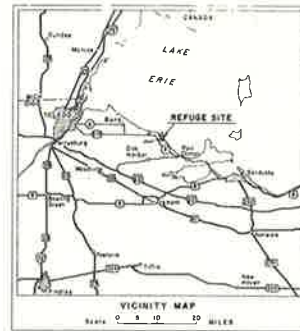
TOWNSHIP
DIAGRAM

MEAN
DECLINATION
1965

MINNEAPOLIS, MINNESOTA

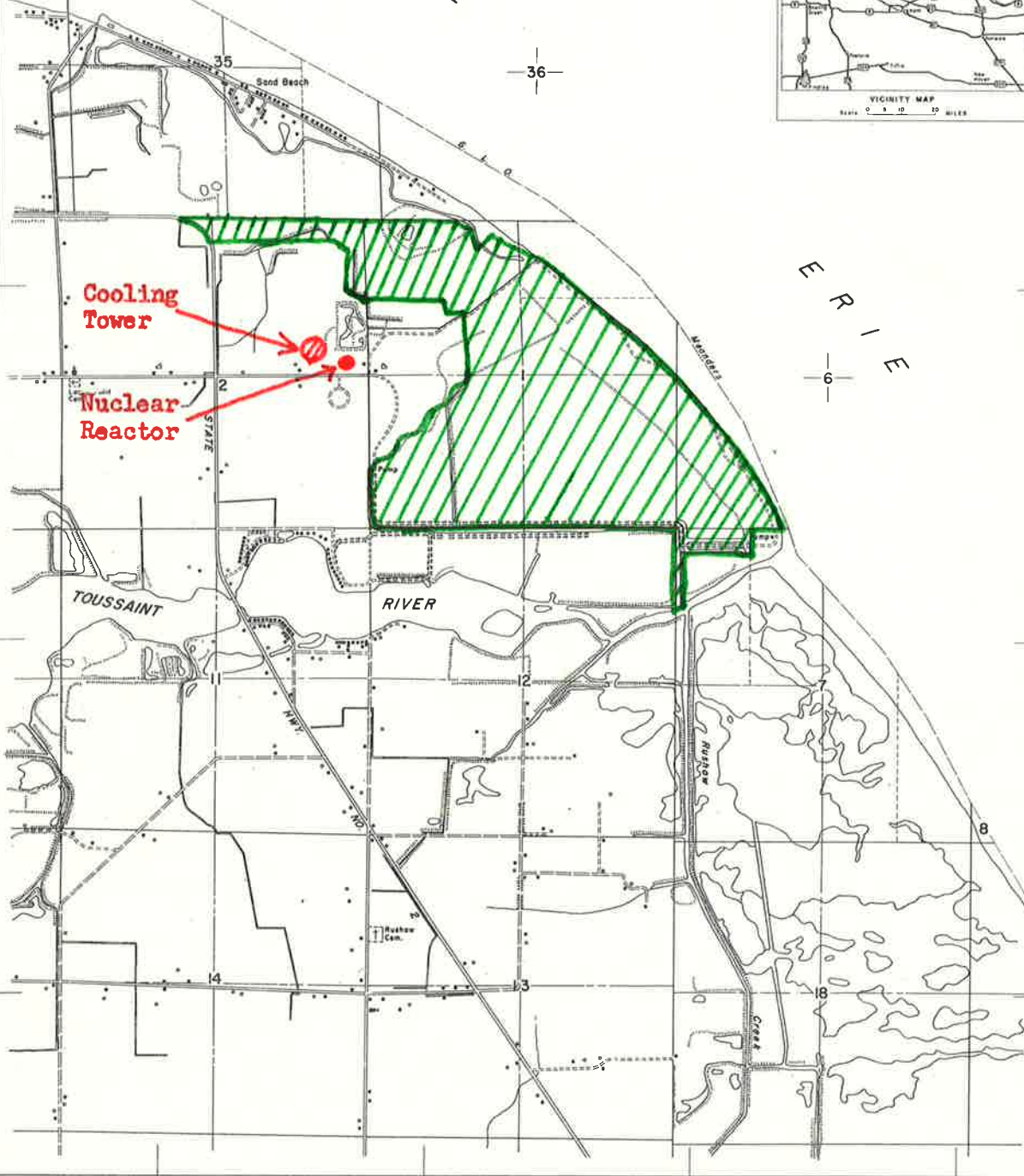
JANUARY 1966

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DARBY MARSH

A contract for rip-rap slope protection at the Darby Marsh Division was started in January by The George Gradel Company in Toledo, Ohio. This contract consisted of placing 9,650 tons of rip-rap on designated portions of the interior dike system. Due to extremely cold weather during January, much progress was made on this project until unusually warm weather in February stopped all work. During this time, it was determined that more rip-rap would be needed to bring elevations up to specified levels. An extra work order was then issued to The Gradel Company for an additional 2,410 tons of rip-rap. Both the contract and extra work order were completed in March, when the dikes firmed up. This is the first of several rip-rap contracts to be issued at Darby Marsh.

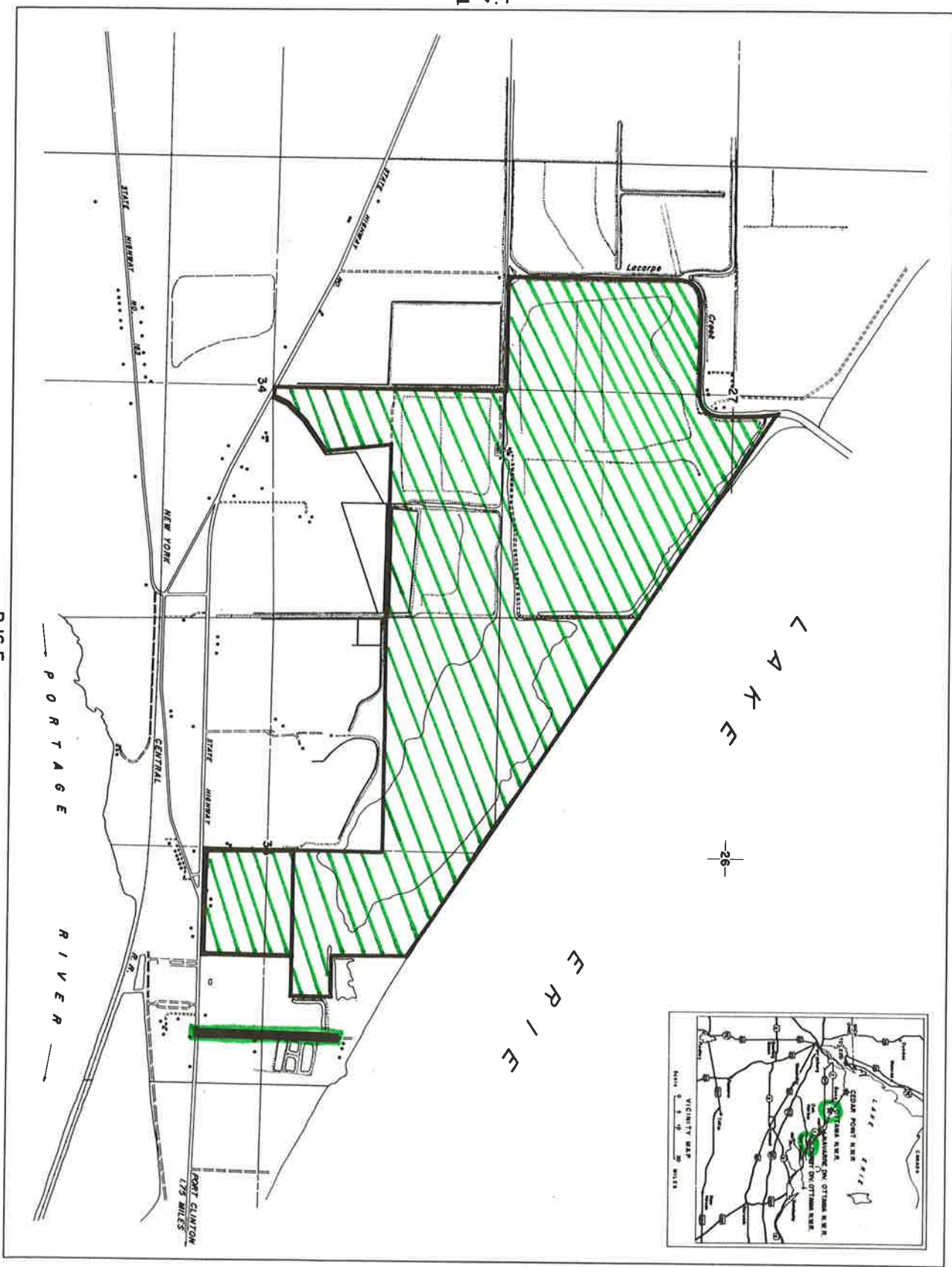
While this first rip-rap contract was being issued and completed, the original contract for dike repair and water control structure placement, issued to Fondessy Enterprises, Inc. of Oregon, Ohio, in June of 1975, was still uncompleted. Since this contract entailed the movement and placement of earthen fill, the same extremely cold weather that aided the rip-rap contract, brought this contract to a complete halt. Not until April was work able to be resumed. Three extra work orders were added to this contract. They consisted of (1) Placing 130' of 24" C.M.P. with accompanying control structures at three locations (2) Placement of additional rip-rap on interior dikes and (3) Building of 1,432 lineal feet of chain link fence on the south boundary of the unit for equipment protection, which was sub-contracted to Toledo Fence Co. by Fondessy. The contract and extra work orders were finally completed in August. Invitations for bid for a third contract which calls for rip-rapping of exterior dikes were advertised in December.

With the completion of these two contracts, \$970,000 of the 1.2 million dollars allocated for this project has been spent. The funds for this project were reassigned from higher F&WS priorities through political pressure asserted by private homeowners to the south of Darby Marsh, who were flooded by waters from Lake Erie, which flowed through the unit's deteriorated dike system. These homeowners felt that it was the F&WS's responsibility to protect their property, even though it was proven that it was illegal for us to do so. Now that the project is near completion protection will be afforded from the north, to the marsh as well as the homeowners. However, it has been shown that these same homeowners are vulnerable to flooding from the Portage River, to their south, which backs up periodically from Lake Erie. When this happens, one has to wonder whose responsibility for their protection, will it be then.

UNITED STATES
DEPARTMENT OF THE INTERIOR

OTTAWA NATIONAL WILDLIFE REFUGE (DARBY DIVISION)
OTTAWA COUNTY, OHIO
R. 16 E.

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



COMPILED IN THE BRANCH OF ENGINEERING
FROM AERIAL PHOTOGRAPHS, SURVEYS BY
THE U.S. & S.M. SURVEY CO.

TOLE, MINNESOTA

SEPTEMBER, 1967

Scale

FIRST PRINCIPAL MERIDIAN
0 100 200 300 400 500 600 700 800 900 1000 FEET

TOWNSHIP
DIAGRAM

MEAN
DECLINATION
1965

WEST SISTER ISLAND

The West Sister Island NWR is an 85 acre island located 9 miles off the south shore of Lake Erie. This refuge has been designated as a wilderness area and inasmuch as no management practices or much public use is allowed on the island the only activities that occurred were two wildlife management studies associated with the heron populations on the island. These were as follows:

A. WMS #6 HERON POPULATION STUDIES IN SOUTHWESTERN LAKE ERIE (John D. Bittner, Ohio Cooperative Wildlife Research Unit)

The heron rookeries on West Sister Island will be studied to provide partial information on migratory paths and mortality rates after fledging for herons produced in this area. This information will be obtained by banding a number of young with Fish & Wildlife Service leg bands each year for the next five years. Estimates of population size will be made during the banding. No live birds will be collected on the island.

Unfavorable weather conditions prevented travel to the island, therefore, no herons were banded during the 1976 nesting season.

B. WMS #10 GREAT BLUE HERONS AS ENVIRONMENTAL INDICATORS: IMPORTANCE OF FEEDING SITE LOCATION. (Robert Parris, Ohio Cooperative Wildlife Research Unit)

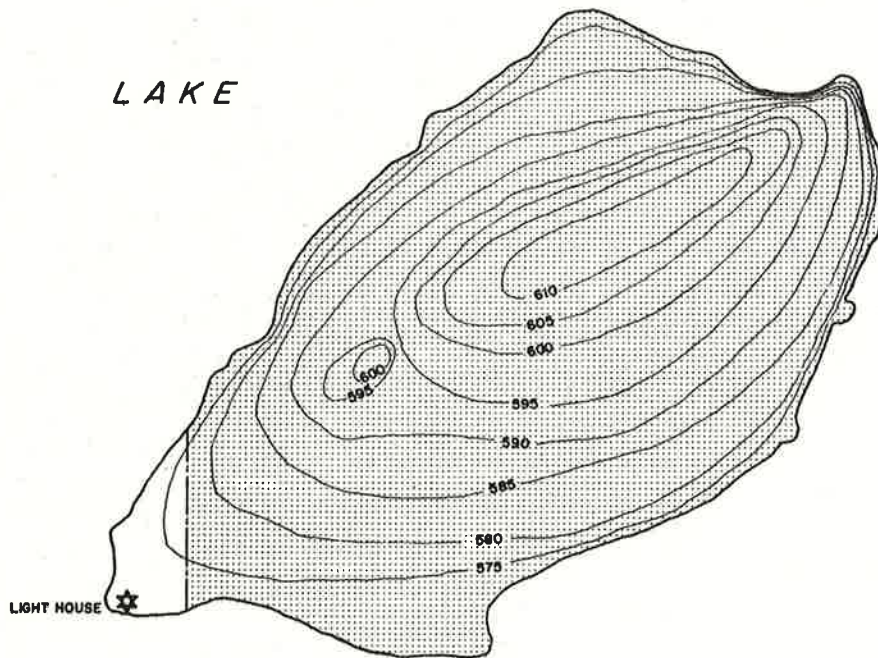
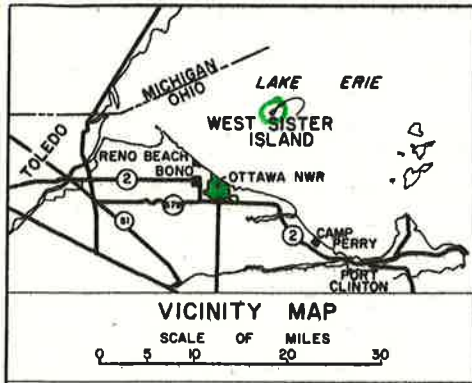
If herons are to be used as environmental indicators, information on population size, reproduction success and tissue residue must be collected in the rookery. Additionally, feeding locations and daily movements from the rookery to the feeding area will have to be monitored. Twenty breeding adults will be fitted with radio transmitters and additional individuals will be color marked with numbered patagial tags. Once the feeding sites are documented, the daily movements from the rookery to the feeding areas will be monitored with portable receivers on the ground. This study is just getting underway.

PROPOSED WEST SISTER ISLAND WILDERNESS

UNITED STATES
DEPARTMENT OF THE INTERIOR

LUCAS COUNTY, OHIO

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
83°06'00"

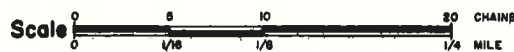


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AND U.S.C. & G.S.

MINNEAPOLIS, MINN.

MAY 1966



CONTOUR INTERVAL 5 FEET DATUM IS MEAN SEA LEVEL



MEAN
DECLINATION
1965

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